

REMARKS

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

I. CLAIM STATUS AND AMENDMENTS

Claims 1-25 were pending in the application when last examined.

Claims 1-5, 12-17 and 21-24 were examined on the merits and rejected.

Claims 6-11, 18-20 and 25 were withdrawn as non-elected subject matter. Applicants respectfully request rejoinder upon allowance of the elected claims.

Claims 1 and 2 have been amended to include the limitation of claim 3 in order to expedite prosecution. Claim 3 has been canceled without prejudice or disclaimer thereto.

The claims have also been amended to correct informalities and clarify the claimed invention. No new matter has been added.

Applicants further note that an election was filed November 7, 2007.

II. FOREIGN PRIORITY

The Examiner is respectfully requested to acknowledge the claim for priority under 35 U.S.C. § 119 by checking the appropriate boxes in item 12 on page 1 of the next Office Action.

III. INDEFINITENESS REJECTION

In item 5 on page 5 of the Office Action, claims 13, 15-17 and 21-24 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite for the use of quotations. This rejection has been overcome for reasons which are self-evident.

IV. ANTICIPATION REJECTIONS

In item 7 on pages 5-7 of the Office Action, claims 1-5, 15-17 and 21 were rejected under 35 U.S.C. § 102(b) as anticipated by Matsuura et al.

In item 8 on pages 7-8 of the Office Action, claims 1-5, 15-17 and 21 were rejected under

35 U.S.C. § 102(b) as anticipated by Kobayashi et al.

Applicants respectfully traverse these rejections as applied to the amended claims.

Applicants note that the claims are directed toward, in part, an oxidized LDL/ β 2-GPI complex wherein the oxidized LDL is covalently bound to β 2-GPI. Applicants further note that claims 1 and 2 now require that the oxidized LDL and β 2-GPI of the claimed complex is substantially not dissociated in the presence of 100 U/ml heparin or in the presence of 10 mM MgCl_2 .

On the other hand, Matsuura et al. in Example 1 in col. 8, line 55 to col. 9, line 5, teaches an oxidized LDL/ β 2-GPI complex formed by incubating oxidized LDL and β 2-GPI at room temperature for 1 hour. The complex taught in Kobayashi et al. was also obtained by incubation for 1 hour. In this regard, please refer to Kobayashi et al. at page 698, right column, line 2 from the bottom to page 699, left column, line 5; page 699, left column, line 26; and page 700, left column, line 14. Such treatment does not cause a covalently bound complex to form. In particular, Figure 3(c) of the present application teaches that incubation for 1 hour at 37°C results in complexes that dissociate in the presence of 100 U/ml heparin or 10 mM MgCl_2 . Thus, such complexes are not covalently bound.

Further, Applicants note that the complexes in the cited references were incubated at room temperature, making covalent bonding even less possible. In particular, page 3 of the present application discloses that when oxidized LDL and β 2-GPI are contacted with each other, a complex is formed wherein oxidized LDL binds β 2-GPI via electrostatic bonding, i.e., non-covalent bonding which is likely to be dissociable. Thus the oxidized LDL/ β 2-GPI obtained by the cited methods (i.e., incubation at room temperature for 1 hour) contains the electrostatically bound complex.

Therefore, the cited references fail to teach the claimed stable covalently bound oxidized LDL/ β 2-GPI complex. Further, Applicants note that the cited references fail to teach or suggest a complex wherein the oxidized LDL and β 2-GPI is substantially not dissociated in the presence of 100 U/ml heparin or in the presence of 10 mM MgCl_2 as claimed in claims 1, 2, 4-5 and 12-14.

Finally, Applicants note that the Examiner has indicated that the cited prior art teaches

complexes that inherently have the properties of the claimed invention. As noted above, Applicants strongly disagree. In particular, as discussed, the incubation methods taught in Matsuura et al. and Kobayashi et al. result in electrostatically bound oxidized LDL/ β 2-GPI. Such products would not inherently possess the properties as recited in the claims.

Therefore, Applicants suggest that the cited references fail to teach each and every element of claims 1-2, 4-5, 15-17 and 21. Thus, Applicants suggest that these rejections are untenable and should be withdrawn.

V. OBVIOUSNESS REJECTION

In item 11 on pages 9-10 of the Office Action, claims 12-13 and 22-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuura et al. or Kobayashi et al. in view of Zuk et al. Applicants further note that on page 10 of the Office Action, it appears that claims 14 and 24 were included in this rejection. Clarification is requested.

Applicants respectfully traverse this rejection as applied to the amended claims.

As noted above, Matsuura et al. fails to teach covalently bonding of the claimed oxidized LDL/ β 2-GPI complex. Further, Applicants note that the complex taught in Kobayashi et al. was also obtained by incubation for 1 hour. Zuk is not concerned with oxidized LDL/ β 2-GPI complexes.

Therefore, Applicants submit that none of the cited references teaches the covalent bonding of the claimed complex. Further, Applicants note that amended claims 12-14 require that the oxidized LDL and β 2-GPI of the claimed complex is not substantially dissociated in the presence of 100 U/ml heparin or in the presence of 10 mM $MgCl_2$.

The inventors have also surprisingly found that oxidized LDL/ β 2-GPI isolated from patients with APS or SLE is a stable complex which is not dissociated even in the presence of 100 U/ml heparin or 10 mM $MgCl_2$. The inventors used this surprising finding to provide a stable LDL/ β 2-GPI complex for use as a standard in the measurement of oxidized LDL/ β 2-GPI in a sample derived from a living body. This property of the claimed invention is surprising and not suggested by the cited references.

Therefore, for the above noted reasons, the cited references neither teach nor suggest that

such a stable covalently bond complex may be used as a standard for the measurement of oxidized LDL/ β 2-GPI in a sample derived from a living body.

Applicants further note that in regard to claim 17, the methods taught in the cited references would necessarily result in complexes that do not meet the limitations of this claim. Thus, the inventions of this claim is not taught by the cited prior art.

For the above-noted reasons, this rejection is untenable as applied to the amended claims, and should be withdrawn.

VI. CONCLUSION

In view of the foregoing amendments and remarks, the present application is in condition for allowance and early notice to that effect is hereby requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact the undersigned attorney at the telephone number below.

Respectfully submitted,

Eiji MATSUURA

By: 

William R. Schmidt, II
Registration No. 58,327
Attorney for Applicant

WRS/lq
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
March 27, 2008